

by Shane Bedwell

Finding Potential Genetics Quick



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AHA's EPD search engine is a powerful tool for finding specific, customized sire candidates.

This summer's feast-or-famine moisture situation is ironically similar to cattle markets the past couple of years, where one sector finds abundance while others go wanting. But, everyone is one day closer to rain, as one breeder said this summer. Keeping positive and remaining proactive is really the only course when the going gets tough.

I have written a lot about the genetic trends of the Hereford breed over the last several years and the significant progress that Hereford breeders continue to make in moving the nucleus forward. Undoubtedly, this has enabled growing market share for the breed, as more commercial cattle producers utilize Hereford more broadly and deeply in their programs.

Keep in mind, much of our genetic progress is rooted in the American Hereford Association (AHA) genetic evaluation, which has been anchored by Whole Herd Total Performance Records (TPR™) for the last 20 years. Whole Herd TPR increases genetic selection accuracy and emphasizes the unrivaled value of phenotypes. Phenotypes remain king in genetic evaluation, even as genomic progress evolves. So, AHA members and

prospective users of Hereford genetics should take great comfort in knowing Whole Herd TPR is at the core of AHA genetic evaluation.

As you consider genetic trends across the Hereford breed, you will find double-digit, if not triple-digit, gains across the board when comparing current breed-average values to those 10 years ago. Again, significant strides have been made. However, our competitive nature as Americans and cattle breeders means we also tend toward charging past optimum to performance levels we may ultimately regret.

The relationship between cattle live weight and carcass weight serves as a prime example as industry acceptance of heavier carcasses changed dramatically during the last decade. Not so long ago, a steer weighing 1,250 pounds was regarded as ideal. Carcasses weighing more than 900 pounds were significantly discounted, typically, well beyond \$10 per hundredweight.

Today, carcasses receive little or no discount in most grids up to about 1,050 pounds. Doing the math, a 1,050-pound carcass weight with a 64% dressing percentage translates to a live weight of 1,640 pounds! That's a big difference from that 1,250-pound ideal a few years back. I doubt this trend will slow anytime soon. I'm not concerned as long as we cautiously watch cow size and the maternal aspects that ensure longevity.

Hereford breeders and seedstock producers, in general, have done an amazing job of bending the genetic curve between antagonistic traits. They've been able to increase weaning (WW) and yearling weight (YW) significantly without dragging along birth weight (BW). They've increased marbling (MARB) and carcass cutability (REA) at the same time.

However, there are other curves we must continue trying to bend.

One is mature cow weight (MCW) versus carcass weight (CW). We need to make progress in identifying genetics that pressure mature cow weight lower while producing cattle with heavier carcass weights. The other is dry matter intake (DMI) versus CW. We need to find the outliers that can increase weight without eating us out of house and home.

Easily search for genetics

AHA's search engine allows anyone guest access to search for Hereford genetics through an expected progeny difference (EPD) search. I encourage you to check out this page on the website and put in the search criteria that fits your operation.

As an example, I recently did a search trying to identify genetics that can truly bend some of the curves that I feel we need to work on as an industry in general, and honestly, where I feel Hereford really can compliment cattle and have a lasting impact. For the search, I made sure the bulls were permitted for AI use and have genomic-enhanced expected progeny differences (GE-EPDs). From there, I set minimum values for calving ease direct (CED), baldy maternal index (BMI\$) and Certified Hereford Beef index (CHB\$) at the 25th percentile rank of the breed (Figure 1). I also set a maximum threshold value on mature cow weight at the 25th percentile rank of the breed. I took advantage of the AHA's udder (UDDR) and teat size (TEAT) EPDs and set a minimum level of being in the top 5% of the breed.

Essentially, I wanted to find a bull that would be suited for heifers and/or cows (CED), sire great daughters (BMI\$, UDDR and TEAT) without increasing cow size (MCW), and produce superior feeding cattle that I could market on the grid (CHB\$). Honestly, I could have just used BMI\$, as a portion of these cattle are fed in the simulation of this index, but I wanted to make it a little more challenging and antagonistic, in order to find a bull with the versatility to do both. That is why the BMI\$ and CHB\$ values are both in the top 25% of the breed as minimum levels. Sorting the list on dry matter intake (DMI) value, ranking in ascending order, was my only other criteria.

The search found 63 bulls that fit these criteria. Their average EPD values and percentile rankings are in Table 1. Admittedly, not every one of the 17 traits and three indices provided by the AHA genetic evaluation falls on the right side of breed average for these bulls. That was not my goal, but I can find bulls up and down the breed percentile rankings for traits that were not part of my search. The search isolated a narrowly targeted group of potential sires based on my specific criteria, from which I could further select. All in all, this search allowed me to find a compelling set of bulls with a lot of versatility.

Scan the QR code on this page. It will take you directly to the search engine where you can define your own parameters to identify your next Hereford genetics. **HW**



Figure 1: Enter selection criteria and sort the way you want

Trait Description	Min	Max	Min. Accuracy (0.00 to 1.00)	Breed Avg. *
Calv. Ease Direct (%)	0.2			2.5
Birth Wt.				2.0
Weaning Wt.				52
Yearling Wt.				64
Dry Matter Intake				0.1
Rectal Cnt.				0.9
Sustained Cow Fertility				95.3
Milk				24
Milk & Growth				50
Calv. Ease Mat. (%)				1.7
Mature Cow Weight		24		89
Udder Suspensions	1.5			1.22
Teat Size	1.5			1.24
Cars. YR				60
Fat				0.013
RE: E per Acre				0.37
Marbling				0.10
BMI Index (3)	200			345
BII Index (3)				414
CHB Index (3)	120			111

Table 1: Search Results

	Production					Fertility			Maternal					Carcass				\$ Indexes		
	CED	BW	WW	YW	DMI	SC	SCF	MM	M&G	CEM	MCW	UDDR	TEAT	CW	FAT	REA	MARB	BMI	BII	CHB
Average EPD Value*	10.2	0.43	53	84	0.15	1.1	23.5	29	55	5.9	61	1.5	1.6	67	0.035	0.48	0.39	469	562	141
Percentile rank within breed	10	15	55	60	45	35	10	30	40	20	10	5	5	50	75	35	5	10	5	10

*Value of the 63 bulls from search